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(11) **CA 2 306 503**

(43) 02.03.2000

(13) **A1**

(12)

(21) **2 306 503**

(51) Int. Cl.⁷: **B60J 010/02**

(22) 18.08.1999

(85) 13.04.2000

(86) PCT/EP99/06051

(87) WO00/10825

(30) 198 37 308.2 DE 18.08.1998

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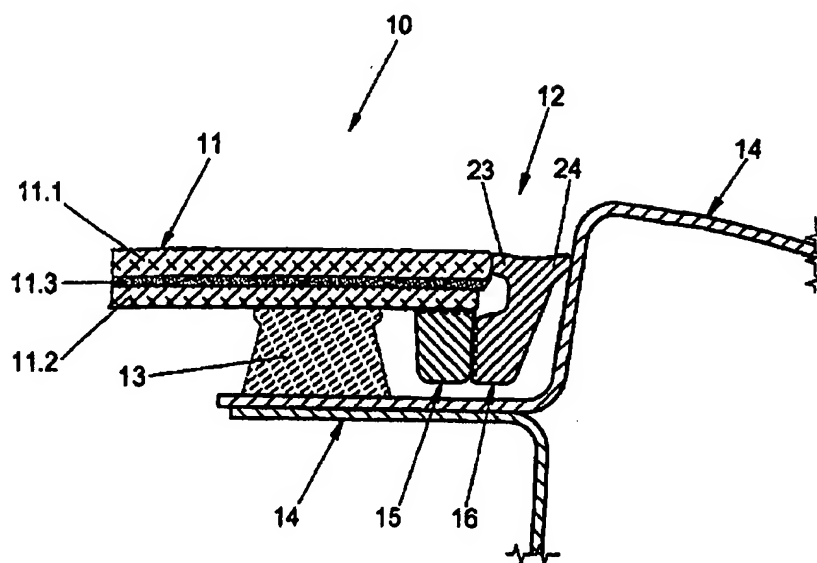
(54) **WINDOW UNIT**

(57)

The invention relates to a window unit (10) comprising a window pane (11) and a frame (12). The frame (12) consists of two parts, a basic frame (15) and an additional frame (16). The basic frame (15) has a bearing surface (17) which contacts the window pane (11) to which the frame is permanently fixed by means of an adhesive layer (19) deposited on the bearing surface. The basic frame (15) further comprises a connecting surface (21) for the additional frame (16). Said additional frame (16) in turn also has a connecting surface (26) which is adjusted to the connecting surface (21) of the basic frame (15). The two frame parts (15; 16) are removably or permanently joined together via their connecting surfaces (21; 26).



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(51) Int.Cl.⁷ B60J 10/02
(30) 1998/08/18 (198 37 308.2) DE
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(54) **WINDOW UNIT**



(57) L'invention concerne une unité fenêtre (10) comprenant une vitre (11) et un cadre (12). Le cadre (12), formé de deux parties, comprend un cadre de base (15) et un cadre auxiliaire (16). Le cadre de base (15) comporte une surface d'appui (17) en contact avec la vitre (11), à laquelle il est relié de manière durable par une couche d'adhésif (19), et une surface de liaison (21) destinée au cadre auxiliaire (16). Le cadre auxiliaire (16) comporte également une surface de liaison (26), conçue pour entrer en contact avec la surface de liaison (21) du cadre de base (15). Les deux parties (15, 16) du cadre peuvent être reliées de manière libérable ou non par leurs surfaces de liaison (21, 26).

(57) The invention relates to a window unit (10) comprising a window pane (11) and a frame (12). The frame (12) consists of two parts, a basic frame (15) and an additional frame (16). The basic frame (15) has a bearing surface (17) which contacts the window pane (11) to which the frame is permanently fixed by means of an adhesive layer (19) deposited on the bearing surface. The basic frame (15) further comprises a connecting surface (21) for the additional frame (16). Said additional frame (16) in turn also has a connecting surface (26) which is adjusted to the connecting surface (21) of the basic frame (15). The two frame parts (15, 16) are removably or permanently joined together via their connecting surfaces (21, 26).





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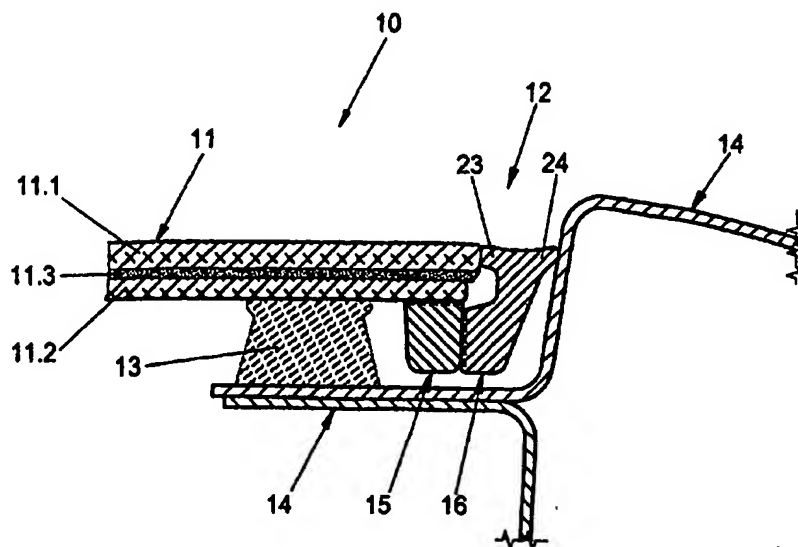
<p>(51) Internationale Patentklassifikation ⁷ : B60J 10/02</p>	<p>A1</p>	<p>(11) Internationale Veröffentlichungsnummer: WO 00/10825</p> <p>(43) Internationales Veröffentlichungsdatum: 2. März 2000 (02.03.00)</p>
<p>(21) Internationales Aktenzeichen: PCT/EP99/06051</p> <p>(22) Internationales Anmeldedatum: 18. August 1999 (18.08.99)</p> <p>(30) Prioritätsdaten: 198 37 308.2 18. August 1998 (18.08.98) DE</p> <p>(71) Anmelder (für alle Bestimmungsstaaten ausser US): RICHARD FRITZ GMBH + CO. KG [DE/DE]; Gottlieb-Daimler-Strasse 4, D-74354 Besigheim (DE).</p> <p>(72) Erfinder; und (75) Erfinder/Anmelder (nur für US): KIRIAKOU, Wassilios [GR/DE]; Meisenweg 5, D-74376 Gemmrigheim (DE).</p> <p>(74) Anwalt: KASTNER, Hermann; Rieslingweg 5, D-71720 Oberstenfeld (DE).</p>		<p>(81) Bestimmungsstaaten: BQ, BR, CA, CN, CZ, HU, JP, KR, MX, PL, RO, US, europäisches Patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p>Veröffentlicht <i>Mit internationalem Recherchenbericht.</i></p>

(54) Title: **WINDOW UNIT**

(54) Bezeichnung: **SCHIEBENEINHEIT**

(57) Abstract

The invention relates to a window unit (10) comprising a window pane (11) and a frame (12). The frame (12) consists of two parts, a basic frame (15) and an additional frame (16). The basic frame (15) has a bearing surface (17) which contacts the window pane (11) to which the frame is permanently fixed by means of an adhesive layer (19) deposited on the bearing surface. The basic frame (15) further comprises a connecting surface (21) for the additional frame (16). Said additional frame (16) in turn also has a connecting surface (26) which is adjusted to the connecting surface (21) of the basic frame (15). The two frame parts (15; 16) are removably or permanently joined together via their connecting surfaces (21; 26).



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Window unit

DE 195 04 828.8 A1 discloses a window unit in which a secondary frame part is integrally formed on the glass window and is subsequently combined with a primary frame part, which has been produced separately. The disadvantage with this window unit is that the secondary frame part is integrally formed on the window in a rigid injection mold. This means that it is not possible for the frame to be adjusted to the glass windows. There may be deviations of up to 3 mm.

The object of the invention is to provide a window unit whose frame can be easily adjusted to the dimensions of the glass window. This object is achieved by a window unit having the features specified in claim 1.

Since the frame is of two-part design and is made up of a basic frame and of an additional frame, which are each produced individually as separate moldings, both the basic frame and the additional frame may be produced from a material whose properties are geared precisely to the requirements of the relevant frame part. Since the basic frame has an abutment surface by means of which it is positioned at least against one side of the window and can be permanently connected thereto, it is possible for at least the basic frame to be aligned with the border of the window or with an equidistant line. Since both frame parts

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each have a connection surface, said connection surfaces being coordinated with one another, the additional frame may be connected in a releasable or non-releasable manner to the basic frame, in which case it is then likewise aligned with the border of the glass window or with an equidistant line.

A configuration according to claim 2 or claim 3 achieves particularly favorable properties for the basic frame and the additional frame, respectively.

A configuration according to claim 4 allows the additional frame to be configured as a decorative trim.

In a configuration according to claim 5, it is possible for the additional frame to be aligned in a different position relative to the basic frame as far as the distance from the window is concerned.

By virtue of a configuration according to claim 6, the additional frame is permanently and captively connected to the basic frame. By virtue of a configuration according to claim 7, the additional frame is connected in a releasable manner to the basic frame, with the result that, if required, it may be exchanged for an additional frame of the same profile but made of a different plastic. However, it may just as well be exchanged for an additional frame of a different profile.

The invention is explained in more detail hereinbelow with reference to two exemplary embodiments illustrated in the drawings, in which:

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Figure 1 shows a cross section, illustrated in detail form, of a window unit comprising window and two-part frame, together with a vehicle-body part;

Figure 2 shows a cross section, illustrated in detail form, of a first embodiment of the two-part frame;

Figure 3 shows a cross section, illustrated in detail form, of a second embodiment of the two-part frame.

The window unit 10 which can be seen from Figure 1 has a window 11 and a frame 12.

The window 11 is designed as a laminated-glass window which is made up of an outer window part 11.1 and of an inner window part 11.2, these being permanently connected to one another by means of an intermediate layer 11.3. The frame 12 is connected to the window 11 along the border region of the latter. The window unit 10 is connected to a vehicle-body part 14 by means of a bead of adhesive 13.

In that exemplary embodiment of the window unit 10 which can be seen from Figure 2, the frame 11 is of two-part design and is made up of a basic frame 15 and of an additional frame 16.

On its side which is directed toward the window 11, the basic frame 15 has an abutment surface 17 by means of which it butts against the inside 18 of the window 11, in the border region

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thereof, and is permanently connected to said window by means of an application of adhesive 19. On its outside, which is located on the right in Figure 2, the basic frame 15 has a connection surface 21. This serves for connection to the additional frame 16. The connection surface 21 is aligned at least more or less normal to the surface of the window 11.

The additional frame 16 forms a transition from the window 11 to the vehicle-body part 14 (Figure 1). It thus has a profile section 22 with two abutment lips 23 and 24. The abutment lip 23 butts against the peripheral surface of the window 11. The abutment lip 24 butts against an opposite surface section of the vehicle-body part 14 (Figure 1). The profile section 22 is configured such that, with the window unit 10 in the installed position, the two abutment lips butt against the respectively adjacent part with a certain amount of prestressing. If the window 11 is designed as a laminated-glass window, as is illustrated in Figure 2, it is expedient for the abutment lip 23 to butt against the outer window part 11.1 of the laminated-glass window.

In the case of the additional frame 16, the profile section 22 is adjoined by a second profile section 25, which extends at least more or less as far as the plane of the underside of the basic frame 15. On the side which is directed toward the basic frame 15, said profile section 25 has a connection surface 26

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which is coordinated with the connection surface 21 of the basic frame 15.

The basic frame 15 is arranged on the window 11 such that its connection surface 21 is at least more or less flush with the border of the window 11, in particular with the border of the outer window part 11.1. Depending on the given features of the window 11 and/or of the vehicle-body part 14, it may also be expedient, however, for the basic frame to be aligned with an equidistant line in relation to the border of the window 11.

The additional frame 16 is permanently connected to the basic frame 15 by means of an application of adhesive 27, which has been provided either on the connection surface 21 or on the connection surface 26 or else on both connection surfaces. The additional frame 16 is arranged on the basic frame 15 such that its abutment lip 23 is located at least more or less level with the border of the outer window part 11.1. In this way, it is easily possible to compensate, on the one hand, for window-size tolerances and, on the other hand, for tolerances relating to the course taken by the border of the window. However, it is also possible for the additional frame 16 to be aligned relative to the basic frame 15 on the basis of other aspects.

The window unit 30, which can be seen from Figure 3, has the window 31 and the frame 32. The

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window 31 is, once again, designed as a laminated-glass window, which has the outer window part 31.1 and the inner window part 31.2 which are permanently connected to one another by means of the intermediate layer 31.3. The frame 32, once again, is of two-part design and is made up of the basic frame 35 and the additional frame 36. The basic frame 35 has the abutment surface 37 which is directed toward the window 31 and is permanently connected to the underside 38 of the window 31 by means of the application of adhesive 39. On the side which is directed toward the additional frame 36, the basic frame 35 has the at least more or less planar connection surface 41. The connection surface 42 of the additional frame 36 butts against said connection surface 41. Provided for the purpose of connecting the two frame parts 35 and 36 are connecting elements which are formed by coordinated profile sections, on the one hand, of the basic frame 35 and, on the other hand, of the additional frame 36.

On the basic frame 35, this profile section is formed by a recess 43 which has a mushroom-shaped outline and is open in the direction of the additional frame 36. On the additional frame 36, the corresponding profile section is formed by a protrusion 44 which likewise has a mushroom-shaped outline, which is coordinated with the outline of the recess 43. The profile sections 43 and 44 are provided at least in certain regions along the longitudinal extent of the

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frame parts 35 and 36. They generally extend over the entire length of the periphery of the frame parts.

The basic frame 35 is arranged on the window 31 such that its connection surface 41 is flush with the border of the window 31, in particular with the border of the outer window part 31.1. On account of the interengagement of the profile sections 43 and 44, the additional frame 36 is fixed in its position relative to the basic frame 35 and the window 11. However, if required, the additional frame 36 may be exchanged, e.g. for a frame part of a different material or else for a frame part of a different profile, in particular of different dimensions coordinated with differing dimensions of the window 11 and/or of the vehicle-body part 14.

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Patent claims

1. Window unit having the following features:
 - a window (11) is provided,
 - a frame (12) is provided,
 - the frame (12) is of two-part design and is made up of a basic frame (15) and of an additional frame (16),
 - the basic frame (15) is produced as a separate molding from an elastic material,
 - the basic frame (15) has an abutment surface (17)
 - by way of which it butts at least against one side of the window (11) and
 - via which it is permanently connected to the window (11) by means of an application of adhesive (19),
 - the basic frame (15) has a connection surface (21) for the connection to the additional frame (16),
 - the additional frame (16) is produced as a separate molding,
 - the additional frame (16) has a connection surface (26)
 - which is coordinated with the connection surface (21) of the basic frame (15) and
 - via which it is connected in a releasable or non-releasable manner to the basic

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frame (15).

2. Window unit according to claim 1, having the following feature:

- the basic frame (15) is produced from an elastomer or a plastic, preferably from PVC.

3. Window unit according to claim 1, having the following feature:

- the additional frame (16) is produced from an elastomer.

4. Window unit according to claim 1, having the following feature:

- the additional frame (16) is produced from a metal or from a metal/plastic combination.

5. Window unit according to claim 1, having the following features:

- the connection surface (21; 26) on the basic frame (15) and on the additional frame (16) is aligned at least more or less normal to the surface of the window (11).

6. Window unit according to claim 1, having the following features:

- the two frame parts (15; 16) are permanently connected to one another by means of an application of adhesive (27) which is provided on one of the two connection surfaces (21; 26) or on both of said surfaces.

7. Window unit according to claim 1, having the following features:

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- integrally formed in the region of the connection surface (41; 42) of the basic frame (35) and of the additional frame (36) are connecting elements which are coordinated with one another and are formed by profile sections (43; 44) by means of which the two frame parts (35; 36) are connected to one another by a form fit at least in certain regions along their longitudinal extent.

1/2

Fig. 1

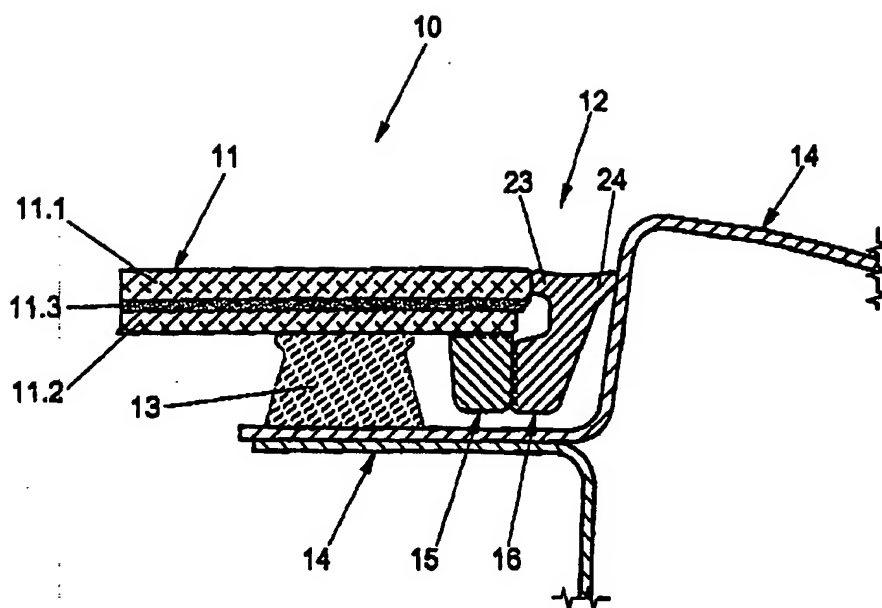


Fig. 2

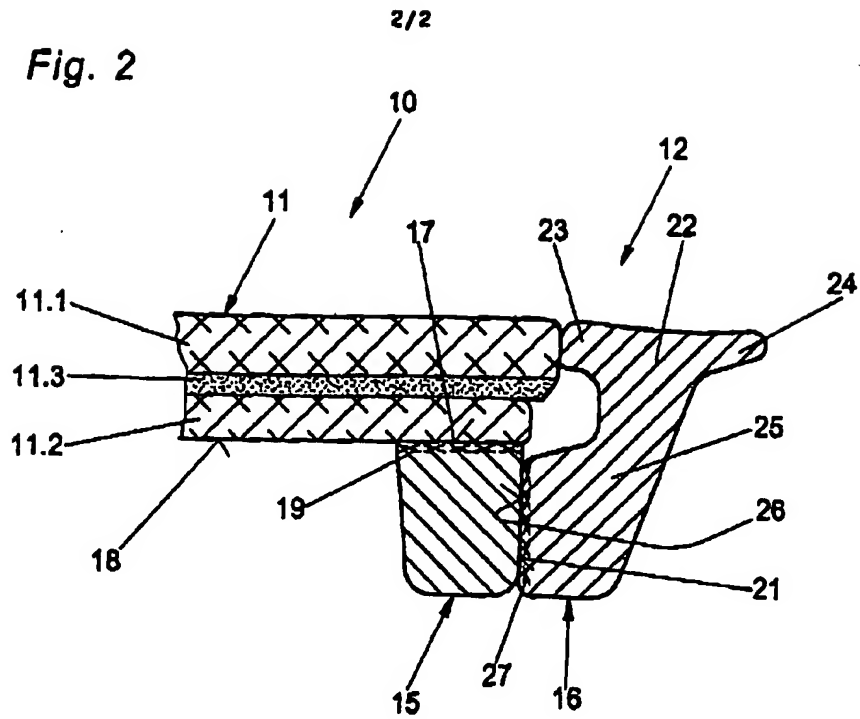
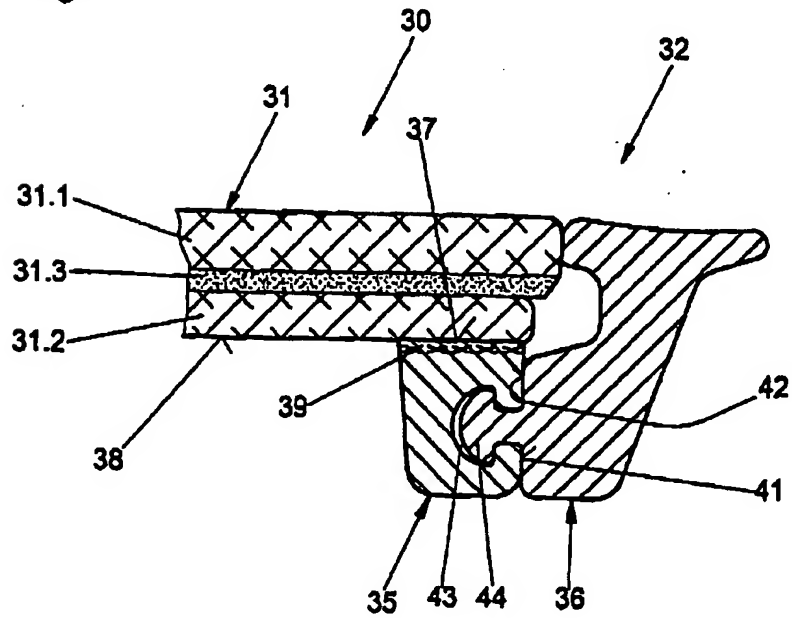


Fig. 3



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